A

PROBATIONARY SURGICAL ESSAY,

CONTAINING

OBSERVATIONS

ON THE

ANATOMICAL STRUCTURE, PHYSIOLOGY, AND PATHOLOGY

OF THE

MAMMA,

SUBMITTED,

BY AUTHORITY OF THE PRESIDENT AND HIS COUNCIL,

TO THE EXAMINATION OF THE

Royal College of Surgeons of Edinburgh,

WHEN CANDIDATE

FOR ADMISSION INTO THEIR CORPORATION,

IN CONFORMITY

TO THEIR REGULATIONS RESPECTING THE ADMISSION

OF

ORDINARY MEMBERS:

BY ROBERT ALLAN,

FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF LONDON,
AND LATE SURGEON IN HIS MAJESTY'S NAVY.

OCTOBER 1809.

" In saving the life of another, we cannot ascertain the nature of the favor we bestow; but when we rescue a fellow creature from the gripe of grief and pain—when we open anew to him all the sources of his enjoyments, we may rest assured that we have acted as his benefactor."

BARONESS DE STAEL HOLSTEIN ON THE PASSIONS.

" Discernere autem cacoethes quod curationem recipit, a carcinomate quod non recipit, nemo scire potest, nisi tempore et experimento."

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1809.

TO

THOMAS TROTTER, M. D.

LATE PHYSICIAN TO THE FLEET

UNDER THE COMMAND OF

ADMIRAL EARL HOWE, K. G.

AND TO THE SQUADRONS COMMANDED BY

ADMIRAL EARL ST. VINCENT, K. B.

ADMIRAL LORD BRIDPORT, K. B.

AND

ADMIRAL THE HON. WILLIAM CORNWALLIS—

MEMBER OF MANY LEARNED SOCIETIES,

&c. &c.

MY DEAR SIR,

Although you have now retired from the first Medical Station in the Naval service of your Country, your labours will not soon be forgotten. By your exertions and unwearied assiduity, the most important improvements have been introduced into the Navy of Great Britain. The health of the Channel Fleet, during the most arduous periods of service, was such as

never had been known in any former war. By your skill and humanity, you contributed to resist the ravages of scurvy and contagion, and to alleviate every form of disease; and by rendering more efficient, in a sensible degree, the Naval resources of Britain, you have lasting claims on the gratitude of your Country, which the present age may be slow to reward, but which posterity will delight to acknowledge. The harmony which pervaded every department of the Medical service, while you were Physician, will long be remembered by the Surgeons of the Channel Fleet; and the many kind attentions bestowed upon me, have left an impression which will not soon be effaced from the mind of,

Sir,

Your most obedient Servant,

and faithful Friend,

ROBERT ALLAN.

OBSERVATIONS

ON THE

ANATOMICAL STRUCTURE, PHYSIOLOGY,

AND PATHOLOGY,

OF THE

MAMMA.

PRELIMINARY REMARKS.

When we consider the anatomical structure of our bodies, and the operation of external agents, the accidents to which we are exposed, and the general irregularities of our lives, it is wonderful that we exist for a day. The laws which regulate the animal œconomy, like those which govern the system of the Universe, form a subject of curious and interesting inquiry. They comprehend all that relates to life in its most per-

fect state, or a due exercise of all the functions of the living body, each action corresponding to the destination of the organ which performs it. Every subversion of these laws, or deviation from the healthy structure, constitutes disease, the most dangerous of which are those termed organic; because, for the most part, they are both beyond the reach of medicine, and the aid of surgery.

The older physiologists arrange the different functions of the human body under three classes, the Vital, the Natural, and the Animal. And as this arrangement accords sufficiently well with our classification of organic diseases, we shall adhere to it.

1*st*, The vital functions, or those which continue life, comprehend respiration, circulation, or the action of the heart and the arteries, and the mysterious operations of the brain. Their existence affords the most indubitable signs of life,

and the animal cannot subsist after their cessation; hence, when the structure of these organs becomes so far deranged that they cannot perform their functions, life ceases. The organic diseases of this class generally occur in old age.

2dly, The natural functions, or those which repair the wastes of the system, and continue the species, comprehend digestion, nutrition, and the secretions. Their influence upon life is less manifest than the vital functions. Death does not immediately succeed to their cessation, but is always preceded by a pathologic state more or less long. The organic diseases of this class occur in consequence of accidents, of the influence of climate, habits of life, intemperance, and other innumerable causes. They may happen at any period of our existence, but most generally prevail after the meridian of life.

3dly, The animal functions are those that result from the operations of the mind on the

body, and cannot exist without the reciprocal action of these two agents. They comprehend the voluntary actions of the body, and the external and internal sensations. The derangement, and even the entire cessation of these actions only produces disease, but does not affect life. The organic diseases of this class are few in number, and may occur at any period, but generally present themselves in the decline of life.

In tracing organic diseases, we perceive that those organs whose actions and secretions are irregular, and liable to be suddenly excited, are the most ready to fall into disease; hence, of all organic diseases, the most frequent are those of the mamma, uterus, and testicle. The functions of these organs do not, like those of the liver or kidnies, begin with the existence of the animal, and are destined to terminate long before its decease. They are also irregular in their actions, and are more excited at one time than another.

Of the various affections of these parts, and, indeed, of all the maladies which fall under the care of the surgeon, I apprehend there are none which excite a deeper interest than the diseases of the mamma, whether we consider their frequent occurrence, the objects involved, or the danger and distress which uniformly accompanies them. I have, therefore, not only on this account chosen these diseases as a fit subject for this Essay, but also because I consider that there is still something in the physiology and pathology of the mamma, not yet well understood. We shall therefore proceed cautiously to detail what we have acquired from reading, and learned by observation and experience.

ON THE

ANATOMICAL STRUCTURE AND PHYSIOLOGY

OF THE

MAMMA.

The Mamma is a conglomerate gland, that is, a glandular structure, composed of a number of smaller glands. It is surrounded and intersected with a considerable quantity of cellular and fatty substance. It is this adipose substance, and not the gland itself, which constitutes the size of the breast, connects it to the skin, and to the greater pectoral muscle over which it is situated; it divides the gland into several portions, and gives that smoothness, plumpness, elasticity, and beautiful rotundity so pleasing in the breast of a well-proportioned female. In young girls the breasts

are nearly as small as in the male, where they are only intended for ornament; but at the age of puberty, when the female constitution evolves, they swell, assume a spheroid form, separate from one another, and become firm, smooth, and painful to the touch; but when once the gland has assumed a regular action, the pain on pressure ceases, and only returns when it is in a high degree of excitement, as at the periods of menstruation and in childbed. In females who have had intercourse with men, the breast gradually loses its firmness, and becomes soft; in those who have born and suckled children, it becomes loose and pendulous; and at the cessation of the menses, it shrivels, shrinks, and almost disappears, having fulfilled the purposes for which it was originally destined.

The mammary gland is of a flat spherical form, subdivided into distinct portions, and not easily separated from one another; each of these portions or subdivisions is enveloped in mem-

brane, which, with cellular substance, connects them together;—it is the thickening of these membranes, and general condensation of the cellular substance, which forms those ligamentous intersections or bands so conspicuous in, and so truly characteristic of carcinoma. In women who have newly undergone parturition, and in those who are suckling, this gland seems to be composed of a congeries of vessels, convoluted and reduplicated on each other like the vesiculæ seminales, or the intestines of a bird :—these are called the Tubuli Lactiferi; they are white, delicate in their coats, and in some degree transparent; they unite together, and gradually become larger as they approach the areola, where they are again contracted, opening on the surface of the nipple with small mouths just sufficient to admit a hog's bristle : —these openings or mouths are constantly fifteen in number*; the nipple is of a spongy substance, and by its contraction and corrugation,

* Sabatier Traité D'Anatomie, tom. ii. p. 436.

* Rolpin de Structura Mammarum.

acts as a sphincter upon the extremities of the lactiferous ducts, preventing the continual flow of the milk, which only flows when the nipple is elongated and erected, or when the breast is much swelled and gorged with milk. The lactiferous ducts are very small, and indeed are not perceptible in men, young girls, and in women where the gland has never secreted milk: it is only in childbed, and during nursing, that they are best seen, and then they are sometimes tortuous, like varicose veins, and as large as the thoracic duct.

The connection betwixt the uterus and mamma is co-relative, and their sympathy and consent so close and intimate, that it is scarcely possible for the former to be affected without a corresponding affection of the latter. At the age of puberty, when the uterine system is unfolded, the breasts swell and become painful. In females who have painful menstruation, at each menstrual period they are highly excited, and disturbed with shooting pains; and in all women, two days pre-

vious to the appearance of this periodical evacuation, when the uterus begins to assume the menstrual action, the breasts become slightly swelled, and are affected with the same peculiar action. A similar change takes place during pregnancy; and the enlargement and shooting pains of the breast, together with the dark coloured zone round the nipple (which is caused merely by their distension) are therefore enumerated by writers on midwifery as characteristic of that state. In women who are suckling, about the ninth or tenth month after parturition, and sometimes sooner, the menses reappear, and if the woman continues to suckle after this event, we perceive, at each monthly return, a remarkable change in the milk; it loses its sweetness, acquires a bitterish taste, becomes of a reddish colour, as if slightly tinged with blood, and excites a temporary derangement in the system of the child, who becomes pale, irritable and fretful, is attacked with gripes, turns squeamish, and pukes the milk;—the obstruction of the catamenia, their final cessation, and all the

diseases of the womb, cancer, polypus, prolapsus, and even general irritation, affect the breast with pain and swelling; and it is at the age of puberty, at the time of menstruation, during pregnancy, in the early months of suckling, and at the cessation of the menses, which are the peculiar periods of excitement in this gland, that blows, falls, and other accidents, are most apt to produce disease. I have observed that the mamma, at particular periods, is more liable to be attacked with one disease than another, even upon the same exciting cause being applied; thus, at the age of puberty, a few years after, before the breast loses its sensibility, during pregnancy, and in the first three months after parturition, upon a blow, pressure, cold, or other exciting cause, it is in general attacked with abscess; whereas, at the period of menstruation, and at their cessation, the same accidents would produce schirrus. Scrophula is a disease that appears early in life, often without any apparent external cause.

When this consent betwixt the uterus and mamma has been so long known to physiologists, it is strange that surgeons should have paid so little attention to it, as even not to regard it in their operations. We see them daily extirpating the breast without attending to the menstrual period, which must be a time very unfavourable to adhesion. In several cases, after excision of the mamma, I have seen the vessels of the breast pouring out menstrual blood for days, as regularly as the vessels of the uterus ; and in the case of one lady, there occurred not only simple menstruation, but an absolute flooding, which lasted twelve days, and which was so profuse for the first four days, as to require a change of cloths every half hour. The day after the operation the catamenia returned, which flowed from the uterus only for a few hours when it forsook it, and came from the breast for twelve days—it oozed out from under the flaps, was of a dark colour, and did not coagulate. This shows that the want of coagulation in the menses does not arise from its

being mixed with the discharge from the mucous glands of the vagina, and, conjoined with other circumstances, leads me to believe that this discharge is a secretion *sui generis*. From an action taking place in the mamma, co-existing with the menstrual action of the uterus, I conclude that no breast should be extirpated about this period, as it is a time very unpropitious to adhesive inflammation. I would therefore think it adviseable to remove all diseased mammae about eight or ten days after the menstrual period; the action of the breast will by this time have completely subsided with the action of the uterus, and adhesion will most likely have taken place before the periodical evacuation returns.

PATHOLOGY

OF THE

MAMMA.

THE most frequent maladies with which the breast is attacked, are abscess, scrophula, sarcoma, schirrus, and carcinoma; and if we except the uterus and the eye, there is no part of our structure so prone to disease.

Mammary abscess is most apt to attack women in the first three months after parturition. It is always attended with sympathetic inflammatory fever; and in nine cases out of ten, arises from frights, passions of the mind, or exposure to cold, and not from external injuries.

Scrophula is a disease much more liable to attack the female than the male; therefore scrophulous tumours of the mamma are very common, and are so frequently mistaken for carcinomatous schirrus that the breast is often extirpated. This affection appears early in life, generally terminates in suppuration, and frequently disappears after mammary abscess. It is characterised by the following marks:—The breast, in general, is much larger in scrophula than schirrus, and less heavy for its size; the tumor is loose, moveable, and does not adhere to the skin; the skin is smooth, and although the tumor is large, the cellular substance can in general be felt betwixt the skin and the gland, and there is not that universal destruction of structure and massing together of the skin, cellular substance, and mammary, and lymphatic glands, as in confirmed carcinoma. The tumor in general suppurates early; when suppuration takes place the skin ulcerates and discharges a clear serum, sometimes pus, but most commonly a serum mixed with a curdly

matter, while it heals up in one place and ulcerates in another; besides, the tumor in general has little or no pain. We may also be guided in our judgment by the swelling of the upper lip, by the induration of the glands of the neck and lower jaw, and by the pale and livid countenance so well marked in scrophulous patients, and so characteristic of the scrophulous diathesis.

Sarcoma is a fleshy tumour, which appears in the testicle, prostate gland, and frequently in the female breast. It attains a large size, and is chiefly characterised by its firmness, weight, want of sensibility, and a tortuous and varicose state of the subcutaneous veins. Mr Abernethy, in his Classification of Tumors, denominates this species *vascular* or *organised Sarcoma;* and says, it "appears to be composed of the gelatinous "part of the blood, rendered more or less vas- "cular by the growth of vessels through it*."

* Abernethy on Tumors, p. 19.

There is another species of *sarcoma* which attacks the female breast, and which, from its sometimes being attended with severe lancinating pain, and from the swelling of the lymphatic glands in the axilla, is more frequently confounded with cancer than any other affection of the mamma. It seems to arise in the lymphatic glands, on that side betwixt the nipple and the axilla, but never attains to a large size; sometimes the skin inflames, and adheres to the surface of the tumor below, giving it a suspicious appearance, and sometimes the axillary glands are in succession attacked with pain and inflammation, which, gradually subsiding, leaves them indurated. Mr Abernethy has denominated this species of tumor *pancreatic sarcoma*, from the supposed resemblance of its structure to the pancreas*.

* Vid. Classification of Tumors by John Abernethy, page 33.

Schirrus is that hardened or indurated state of a gland which precedes carcinoma. It is one of the terminations of inflammation, when situated in glands, or in parts of a glandular structure, and is frequently produced by cold applications to those parts while in a state of active inflammation; however, the disease frequently occurs without any previous inflammation, and has then a greater tendency to degenerate into cancer. There are many parts of the body that frequently become schirrous, and yet never assume the cancerous action, as the pancreas, liver, and stomach. It is the uterus, mamma, testicle, and rectum that are most apt to terminate in this disease; and of all these parts, the breast and uterus, as their actions are not continual, and as their periods of excitement are more irregular than any other part of our structure.

Schirrus, in the female breast, possesses such peculiar characteristic marks that it can hardly be mistaken. It is a tumor hard, solid, irregular, and

knotty on its surface, without pain or heat, or change of colour of the skin. It never grows to the bulk of sarcoma, or the scrophulous tumor; and in many parts of the body, is even attended with a diminution of size. It is harder and heavier than most other tumors. In its commencement it is often not of the size of a pea, and frequently remains in this state for many months, and sometimes even years, without sensibly increasing, and without becoming painful. When it begins to increase in size, and when, on handling the tumour or otherwise, the patient feels pain more or less acute, accompanied with lancination, like the stinging of needles, it is no longer a simple schirrus, but has assumed the carcinomatous action, and now takes the name of occult cancer. The distinguishing mark, then, betwixt schirrus and occult cancer, is simply this—that, in the former, there is no pain, while, in the latter, the pain is exquisite. Superficial practitioners often confound them together, while in truth the two diseases are quite distinct: the one has no

manifest influence over health; although, upon any exciting cause, very apt to degenerate into cancer; the other has already assumed that action, and ought to be immediately removed by the knife. Query—Do the ligamentous bands exist in the mamma in the state of schirrus, or do they not appear till it has assumed the carcinomatous action? No external medicines should be applied to schirri; for it is a truth, established by experience, that true schirrus is neither susceptible of resolution nor suppuration; and that all medicines, as exciting and giving activity to the vessels, only irritate and accelerate its degeneration into cancer.

The limits of this discourse will not permit us to enter into any investigation of these diseases, we shall therefore proceed to make some general Observations on Cancer, as the most serious and alarming disease with which the Mamma can be attacked.

CANCER.

"Heu! nullis medicabilis herbis."

From the earliest records of surgery, down to the present day, every book abounds with ample histories of this disease; but although the most eminent practitioners, and the men most distinguished for talent and observation, have directed their attention to investigate the causes, and ascertain the nature and treatment of cancer, still we are very far from knowing any thing of the real nature of the disease, and have not yet discovered any medicine capable of effecting a radical cure. Excision, when performed early,

or before the ulcerated stage commences, is the only resource we can rely on with certainty.

Cancer is justly considered as one of the most dreadful maladies that can afflict human nature. Cheered by no ray of hope, and doomed to pass a miserable existence, the unhappy patient must either submit to a cruel, and sometimes unavailing operation, or sink under the anguish of a loathsome disease; and happy is that patient who has the disease situated in parts which can be excised.

Although the glandular system in general is most frequently the seat of cancer, yet no part of the body is exempt from its attacks. It assails every sex and every age, and is the only disease, except fungus hæmatodes, that involves in its ravages, skin, cellular substance, glands, muscles, bones, and every kind of structure. We daily see it appearing in all the soft and spongy parts of the body, as the gums, lips, nose, cheeks, ab-

domen, and thighs. However, there are some parts of the human structure more than others, where its attacks are apparently regulated by age and sex. Thus the breast and uterus are most frequently the seat of this disease in the female; the glans penis, testicles, and lower lip in man; and the eye in infancy.* The skin of the face,

* That the eye is more subject to cancer in infancy than at any other period of life, is a remark of Cheselden's, but I found the observation chiefly upon what occurred in the Hotel Dieu. Lassus says, that cancer never occurs in infancy, and that no examples have fallen under his observation where the disease existed in girls before the fifteenth or sixteenthyear (indeed he seems only to have seen the disease once in a very young subject; it was a cancer of the right eye, of the size of a small apple, in a girl of a pale and livid complexion, with irregular catamenia, scarcely seventeen years of age, and which terminated fatally). I say, notwithstanding this observation of Lassus, still it appears, from the number of cases of cancers of the eye operated upon by Dessault in the Hotel Dieu, that more than one third of the patients were under twelve years of age. Mr John

the rectum, the bladder, and the tongue, seem to be equally susceptible of attack in both sexes.

We observed above, that glandular parts are more subject to cancer than any other, and it is in the female breast that we propose at present to consider it.

Systematic writers divide cancer into occult and open. When schirrus of the mamma becomes painful, it is called occult cancer: when this occult cancer ulcerates, it is denominated open cancer. Cancer most frequently occurs in the mamma, and there, as in every other glandular part, is always preceded by schirrus. It may arise either from an internal or external cause; that which arises from an internal one, or that which occurs without any evident external excit-

Burns of Glasgow also mentions two well marked cases of cancer of the eye in children five years old which terminated fatally.

ing cause, is the most dangerous species of the disease. It spontaneously occurs in women who have attained to their forty-fifth or fiftieth year, at the cessation of the menses, and is more apt to occur in those who are sterile, and who have led a life of celibacy. A modern French writer * remarks, that women who are very fat, that those who have fair hair, a fine skin, the pale and livid complexion, are more disposed to cancer than other women.

Schirrus of the mamma is at first round and moveable, and can be felt rolling under the skin; it then changes its figure by losing its globular form; it becomes longer, more irregular and knotty to the feel; it increases greatly in size, and

* Lassus, Medecine Operatoire, Tom. II. p. 123. But Sabatier says, " Les femmes dont la carnation est belle et la constitution sanguine, en sont plus frequement attaquées que les autres. Celles qui ont des affections rheumatismales le sont aussi. See Medecine Operatoire, Tom. II. p. 330.

when it degenerates into cancer, grows more or less painful. The pain is sometimes acute and sometimes dull, sometimes it is attended with throbbing, but most commonly with a burning and prickling heat, as if needles and pins were sunk into the substance of the gland. This pain at first is not constant, but is principally perceptible upon handling or compressing the mamma.

These cruel and lancinating pains are especially felt upon the changes of the weather, after violent exercise, and when the patient has been much excited by the passions of the mind :—this constitutes the first stage of occult cancer. It may be denominated incipient carcinoma, and is just schirrus attended with a peculiar pain.

The tumour now grows very remarkably ; that which in its commencement was no larger than a pea, has now acquired the size of a pigeon's or hen's egg, and in proportion as it has increased in size, it has become more knotty and

irregular on its surface; the lancinating pains are more frequent and more acute; the skin adheres to the tumor, and becomes puckered, and of a livid or ash colour; the nipple is now generally drawn inwards; the obstruction and obliteration of the veins within the tumor cause those on its surface to swell, and become distended with a bluish or dark-coloured blood; and these veins, extending in all directions, somewhat resemble the claws of the cancer or sea-crab; hence the name of the disease. This, then, constitutes the second stage of occult cancer, and may be denominated confirmed carcinoma. The decided characteristic marks, then, of confirmed occult cancer, are a tumour, hard, irregular and knotty on its surface, adhering to the integuments above and to the muscle beneath, attended with sharp lancinating pain, a livid or ash-coloured appearance of the skin, and a distended and bluish state of the subcutaneous veins.

The disease continues to increase; the angles of the tumor become more pointed; there is an accession of pain, pulsation, and unusual pricking, with an increase of heat and swelling; the skin begins to crack; a corrosive sanies, or fœtid ichor, issues from the fissures, which excites a burning itching, and dreadful excoriations:—the disease has now degenerated into open cancer. When the skin has once cracked, the ulcerating process advances with a wonderful rapidity; the cracks go on augmenting, and being no longer confined to the skin, they reach the very substance of the gland; the discharge, sometimes a black fœtid ichor, and sometimes bloody, now flows in greater quantity; the cruel and burning pains become more poignant; the cancer is now a horrible sordid ulcer, with tumified and reverted edges, sometimes discharging blood profusely from the eroded vessels, and sending forth a stench very offensive to the patient, and intolerable to her attendants; hard fungous excrescences, of a cauliflower form, spring

up on all sides from the bottom of the ulcer, making its surface full of inequalities, and the surrounding integuments having assumed the diseased action, become hard, and of a dark purple colour.

Whilst all this destructive process is going on, the disease, sooner or later, " extends through " the medium of the absorbing vessels. Their " glands become affected at a considerable dis- " tance from the original tumor. The disease is " communicated from one gland to another; so " that, after all the axillary glands are affected, " those that lye under the collar-bone, at the " lower part of the neck and upper part of the " chest, become disordered. Occasionally a " gland or two becomes diseased higher up in " the neck, and apparently out of the course " which the absorbed fluids would take. The " absorbent glands, in the course of the internal " mammary vessels, become affected as the dis- " ease continues. In the advanced stage of car-

" cinoma, a number of small tumors, of similar " structure to the original disease, form at some " distance, so as to make a kind of irregular " circle round it."

The unhappy patient now finds no rest either day or night, and it is only by large doses of opium and other narcotics that she can dull her distracted feelings, and for a while support a miserable existence. However, the pain and irritation increasing, with cough, difficulty of breathing, and a slow hectic fever, she dies in the utmost misery, and amidst the cruelest tortures.

TREATMENT

OF

CANCER.

THE most intelligent practitioners of the present day consider cancer a local disease, and extirpation, when performed early, certainly affords a complete cure. Although the disease has sometimes returned after extirpation, it has been only where all the diseased structure has not been completely removed, or where the neighbouring parts had taken on the diseased action previous to the operation. When this latter circumstance is

the case, the disease generally returns in the skin. I therefore think, in the removal of the cancerous mamma, that surgeons in general leave too much skin.

Although, in every other operation, it is a general rule to save as much of the integuments as possible, in order to cover neatly and effectually the wounded parts, I think this rule should be more departed from in the excision of the mamma than it usually is. The skin on the sides is so loose and moveable, and so easily stretched, that there could be no difficulty in bringing the cut edges together, even if the surgeon in every instance were to cut the skin away to the whole extent of the tumor. Although it would be always adviseable to perform the operation before the parts ulcerate, still the success of Mr Hill warrants us to operate in every case where the diseased parts can be cleanly and fairly cut out; but the surgeon, previous to attempting any operation, should deliberately and minutely examine

the state of the lymphatic glands in the axilla, and all along that fatty line under the inner edge of the great pectoral muscle, stretching from the mammary gland to the arm-pit; for no cancerous parts should be attempted to be cut out, unless the surgeon also removes all the diseased absorbent glands. Although the glands lying in that place be hardened and much diseased, he may proceed in his operation, as they can be very easily dissected out; but where he feels the glands above the collar-bone much diseased, or when his patient is affected with cough, difficulty of breathing, or schirrous liver, as these are the constitutional terminations of cancer, he must abandon his enterprize, and confine himself entirely to palliative remedies, for an operation under these deplorable circumstances would only hasten the death of the patient. Where the operation is admissible, the surgeon should, in every instance, remove the whole breast, even although only one of the glands is affected, as leaving any

part might endanger a relapse, and could be of no use to the patient.

Various external and internal remedies have at different times been proposed for the cure of cancer. Some have even boasted of the name of specifics; but practitioners are now generally agreed, that no reliance is to be placed on any thing but the knife. The internal remedies have been used in all stages of the disease, and consist of various narcotics, and some acrid metallic medicines, so frequently used in those diseases which are desperate, and for which we know no method of cure The narcotics are the conium maculatum, belladona, solanum dulcamara, hyoscyamus, and opium. Of these medicines, the conium maculatum has been most frequently used; but none of them effect any change on the disease, and only when used in liberal doses act on the general principle of narcotics, of allaying pain and irritation.

The metallic remedies are arsenic, mercury and iron. Arsenic was the favourite remedy of Justamond, and which he conceived to be a specific for cancer. Mercury gives some alleviation in schirrus and occult cancer, as in other glandular affections, but unfortunately aggravates the symptoms when in the state of ulceration. The carbonate of iron has been lately recommended to the attention of practitioners by Mr Carmichael of Dublin. I have tried it in some cases, but have not yet had an opportunity of appretiating its value. I can readily conceive its great utility in scrophulous affections of the breast, but am at a loss to explain its modus operandi in the cure of cancer. From its great tonic power, it ought to redden the blood, quicken the pulse, and increase vascular action, which, from what we know of the nature of cancer, should aggravate the disease.

The external remedies are generally used in the ulcerated stage of the disease, and consist of

palliative applications which allay pain and correct the fetor of the discharge, although they possess no efficacy in curing the disease. They also comprehend various caustics; the former include watery solutions of opium, the bruised leaves of the conium maculatum, scraped carrots, or the carrot poultice, the fermenting poultice, powdered charcoal, chalk finely levigated, carbonic acid gas, liquid tar, and tar water. The caustic applications are, arsenic, the muriate of mercury, and the actual cautery. Arsenic, as we remarked above, was considered as a specific by Justamond, and formed the basis of the remedies of Plunket and of Guy in England, and of the celebrated applications of Chonet and Rousselot in France. The muriate of mercury possesses no virtues over any other caustic, and it, as well as arsenic, always excites much pain and irritation.

The actual cautery is much preferable to any potential cautery; it is really mild in its applica-

tion, gives little pain, acts entirely locally, and produces no constitutional irritation; it is a safe application, although little used by surgeons, has no cruelty but in the name, and I would be inclined to prefer it in every instance where the knife was inadmissible, as when the cancer is situated in the face or palate, or has proceeded to a very great length in the breast. These, then, are the various topical and internal remedies which have been at different times used for the cure of cancer; each have had their abettors; their reputation has had but a short-lived existence, and melancholy experience has taught us that nothing is to be trusted but the knife, although I must confess I have much confidence in the actual cautery where the knife cannot be employed.

Although no medicine with which we are acquainted can cure this disease, a well regulated regimen has frequently been of great utility. Milk and vegetables, or rather the spare and low diet recommended by Pouteau, and the Danish

surgeon Callissen, and since adopted in England by Messrs Fearon and Pearson, has been of more service in arresting the progress of cancer than any medicine that has ever been proposed; but it should be employed early, as soon as the schirrus has taken on the inflammatory action. All wine, spirits, fermented liquors, animal food, violent exercise, or whatever can tend to quicken the general circulation, must be rigidly avoided; the patient must be placed on a diet barely sufficient to support life, and which should principally consist of vegetables, ripe fruits, stewed or roasted, very weak soups with bread; and for drink, nothing stronger than water. This plan, conjoined with rest, frequent topical bleedings with leeches and purgatives, has been of infinite service in the early stages of the disease, wherever situated. It has frequently allayed the pain, reduced the swelling, and apparently checked the disease in its incipient state; but, should this not be the case, and the disease evidently increasing, or even sta-

tionary, the most early recourse must be had to the operation, the best directions for performing which are given by Mr Samuel Cooper of London. *

* See Dictionary of Practical Surgery, by Samuel Cooper, article Mamma.

FINIS.

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